

Model: AE300S-H/P AE500S-H/P

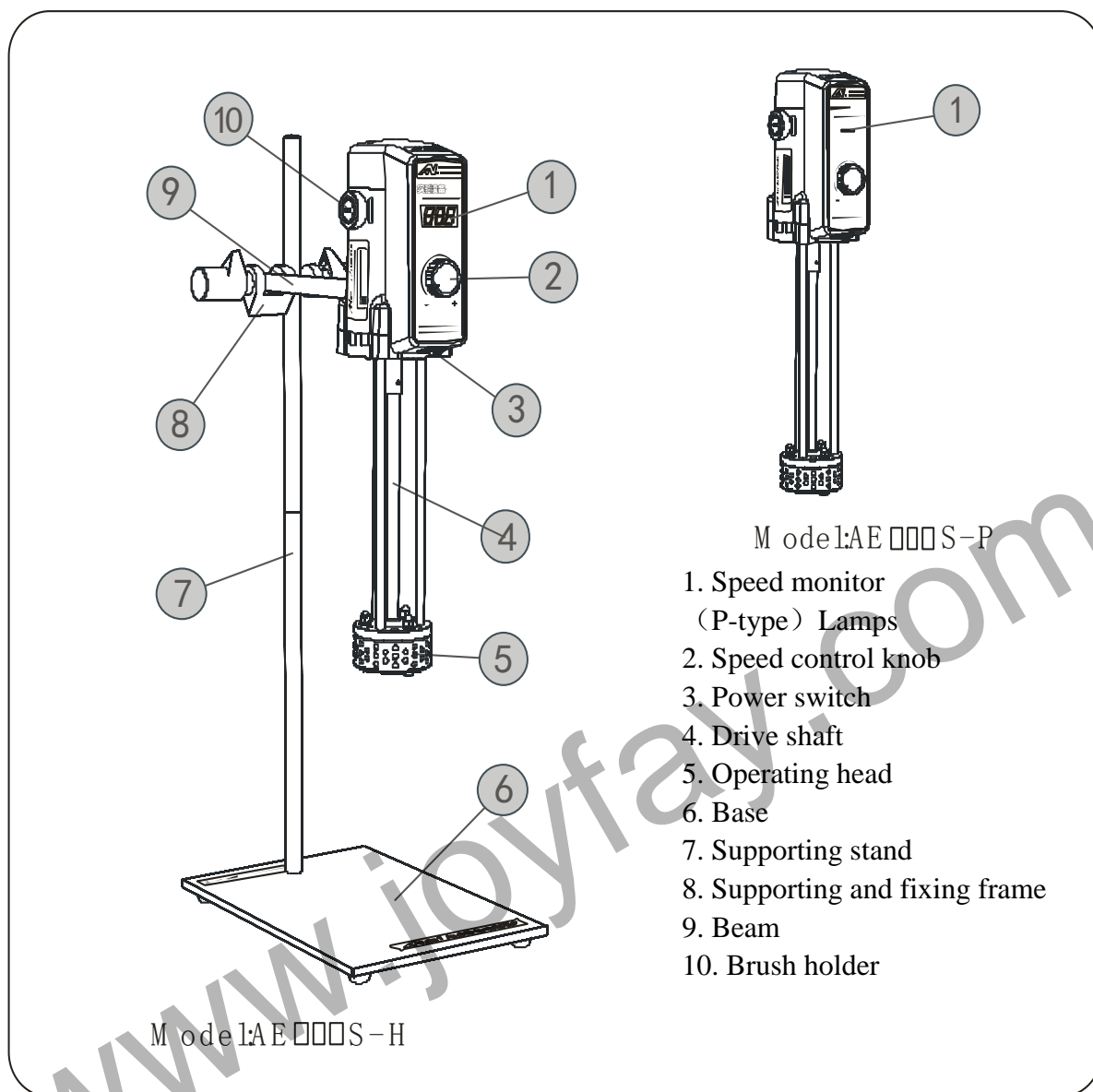
Laboratory Shear Emulsifying Machine

User's Manual

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Packing list:

order	item	number	order	item	number
1	Emulsifying host	1	5	Supporting and fixing frame	1
2	Base	1	6	Operating head	1
3	Supporting stand	2	7	Brusher(Spare)	1
4	Beam	1	8	Operation manual	1

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Thank you for using our products of electronic laboratory mixers. To make the best use of our products, please read the manual carefully before using it and keep the instruction manual for further reference.

1. Product overview

AE series lab shear emulsifying machine is compact with micro express series motor, which you can apply to the mixing of the low, medium or high viscosity liquid in the lab or Pilot workshop, the shearing emulsification of the smashed particles in the liquid. This machine adopts the motor with superior quality plastic body, high quality stainless steel refining shear emulsifying head and controller. The Speed Controller, with all cruising speed control technology and IC speed detection technology, can compensate the speed change that caused by the load change and power supply voltage fluctuations immediately and effective. Features with soft start, automatic overload protection, the reactive power compensation of whole constant etc. The “H” type of this series can display the speed intuitively with its digital display, to facilitate the acquisition of experimental data.



- Please pay special attention to the warning signal



- To avoid personal injury, please pay special attention to the warning signal

2. Technical parameters

Model:	AE300S-H/P	AE500S-H/P
Rated voltage:	230 ± 10 % VAC	
Rated frequency:	50/60 Hz	
Input power:	510W;	850 W;
Output power:	300W;	500 W;
Rated torque:	0.96 N · m	1.78 N · m;
Work mode:	100 %	
Speed control:	Yes	
Speed range:	200~11000 rpm;	500~11000 rpm;
Speed display:	digital display × 1000 rpm	
The Material of the Operating head:	Stainless steel 321 #	
Standard configuration:	Φ 70 mm;	Φ 90 mm
Maximum line speed of the rotor:	18 m/s;	22 m/s;
Mixing capacity (H ₂ O) :	200~40000 ml;	300~60000 ml;
Size of the mixer (T×B×H) :	320 × 220 × 760 mm	
Permissible ambient temperature:	Lower than 40 °C	
Permissible relative humidity:	Less than 90 %	

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3. Installation

3-1. Put the Base (6) on the platform, connect two supporting stand (7) by screwing them together before fixing it into the Mounting hole in the base. Set in the Supporting and fixing frame (8) on the upper end of the supporting stand, and turn the handle to fasten them.

3-2. Connect the short Beam(9) to the host electric motor through the Mounting bolt hole at the back of the motor, then insert the Beam into the Supporting and fixing frame, and turn the handle on it to fasten the motor on the supporting stand. The host motor can be adjusted on the Supporting and fixing frame freely.



- To ensure the running safety of the product, fix the key points of connections firmly and inspect it regularly.
- Before testing or operating the product, please read the Use and Maintenance carefully.
- Ensure a good grounding for the Input power supply socket.



- The product can't be put into use in a flammable and explosive environment.
- Ensure a good grounding for the Input power supply socket. It's strictly prohibited to connect the grounding with telephone lines, metal pipes or lightning arresters.
- The work of the machine against shear emulsifying head (5) before placing experiment in liquid media is up and running. Working the bottom (feed inlet) of the head should keep enough distance to the experimental media container.
- Before entering the power of this machine, please carefully check if the power switch on the speed(3) controller is turned off, speed control knob(2) is in the starting position. Avoid the Power Input of emulsified host suddenly started, personal injury caused by operator and laboratory equipment, laboratory material and other damage.
- In order to ensure security, when the experiment required a closer look at the effect, the author should wear protective cap to prevent hair The involvement of transmission of the rotating hinge(4).

4. Use and maintenance

4-1. The machine uses single phase three wire system, so the power socket should be a triple one (220V, 10A).

4-2. After the input power supply, turn on the power switch, speed or power supply led (1) on the monitor, and then slowly rotating speed control knob in the clockwise direction, mixing host running the speed gradually enhanced (Numerical increase of speed on the monitor). Instead, run the speed decreased gradually (Numerical reduced speed on the monitor).

4-3. Operation of H - speed digital display with thousands through rate, speed in 1000 rpm. In the mixing process in stirred, due to fluctuation of input power, to participate in media properties of materials change and mixing of the fluid inertia after creating and other reasons, the running speed was changing, and numerical display of speed fluctuation ; otherwise, Speed Detection or digital display system for a failed state.

4-4. This work has been completed, the speed control knob back to the beginning, turn off the power switch, pull the plug. Efforts and timely shear emulsifying head of the individual part, for next time.

4-5. This configuration should head to the work of stator based on experimental need to select the right

of the stator to experiment.

4-5-1. Experiment of low viscosity liquid mixing emulsifying, small particles materials smashing dissolved 5mm^2 of the stator should be selected.

4-5-2. Medium viscosity fluid experiment of mixing emulsifying, secondary particles materials smashing dissolved 20mm^2 of the stator should be selected.

4-5-3. High viscosity fluid experiment of mixing emulsifying, large particles materials smashing dissolved, use the stator 50mm^2 .

4-6. Changing stator steps:

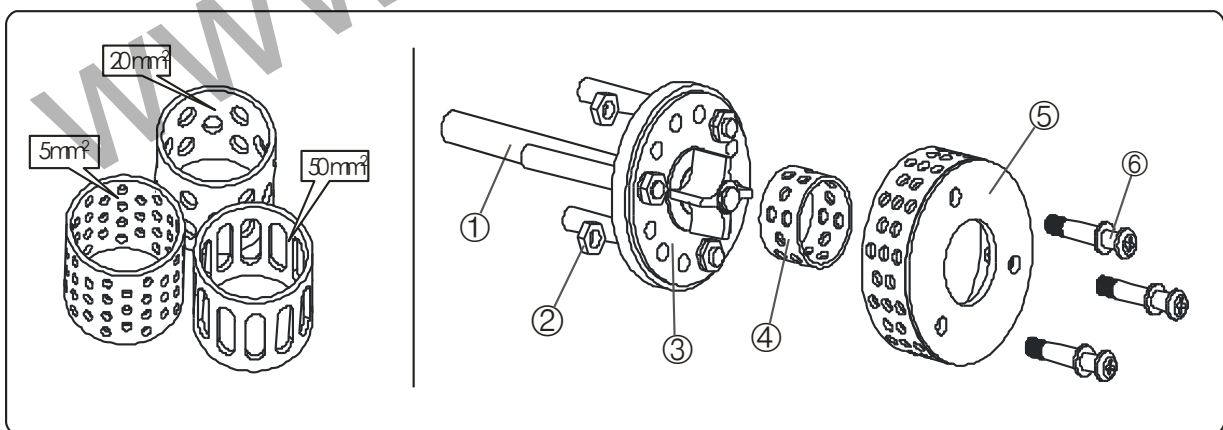
Use random under the wrench three nuts ② with rotary, remove the three screws ⑥ from the head on the steps of the stator base ③ outside of its stator coil ⑤, remove the stator ④ that do not apply, and then to the right of the stator in, and then installed outside the stator ring and screw, three synchronous slightly tighten the nut balanced, and hand drive fixed drive shaft ①, should not have a cyclical phenomenon of elastic.

4-7. After using the product for some time or after a long stop, a maintenance inspection is needed before reusing it. To ensure electrical safety, use a megger to measure insulation resistance.

4-8. The mixer brush is a wearing part, so a regular inspection is needed. When inspecting, switch off the electricity, pull the plug out, unscrew the brush cap (10) to pull the brush out. If the brush is less than 6 mm, replace it with a new brush of the original specification. Make sure the new brush should be able to move freely in the tube because a stuck brush may cause electric sparks or a motor failure.

4-9. If a motor failure happens, check whether the power is on, the plug is loosened, or whether the brush is in good contact. If these faults are eliminated and the motor failure remains, contact AN after-sale service. No mounting or dismounting the product for any person without operation certificate of such machine to avoid any accident.

Stator change the step illustrations



Precautions:

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- Place the product in dry and clean places. The ambient temperature should be no more than 40℃, and avoid the falling into of foreign bodies.
- When operating the product in wet conditions, you need a electric leakage protection.
- Fierce fluctuation of voltage may cause an instable speed, so use a regulated power supply device.
- Avoid using the machine in severely corrosive environment. If you have to, protective measures are needed.
- If the agitating medium is volatile and flammable, be cautious that the electric sparks may cause explosion or fires.

5. After-sale service

5-1. JF company will be responsible for warranty within six months after the purchase of this machine due to quality issues. For improper use of the user or the artificial damage, we do not assume any liability and related maintenance costs.

5-2. The product guarantee is necessary .for warranty.

5-3. The warranty does not cover accidental injury and damage caused by human factors, which include the unauthorized disassembling of the internal structure of the machine or parts.

5-4. The repair costs borne by the users themselves if the product is beyond the warranty period.

6. Shear emulsifying principle

The experimental device is driven by high - speed motor shear emulsifying head. Precision line with the work of the first stators, under the rotor spinning at high speed, form a circular tangent of high frequency, strong velocity, angular velocity and other integrated kinetic energy to promote experimental material from the experiment the bottom of the container into the rotor area, and with the huge centrifugal force from the stator Kong Zhong out. Stator and rotor reasonable in the narrow gap in the formation of strong, reciprocating hydraulic shear and friction, centrifugal extrusion, collisions, and so on comprehensive effect of fluid flow. Experimental material in a container at least an iterative work process, and take up to tens of thousands of times cut, tear, impact, and mixed, so as to achieve the effect of shear emulsifying, about 1000 times, higher than the average mix of its effectiveness.

Laboratory shear emulsifying machine is suitable for the area of biotechnology-Organizations dispersed, Sample preparation for the pharmaceutical field, Enzymatic treatment of food industry and the pharmaceutical industry, cosmetics industry, The paint industry and petrochemical liquid and the liquid phase, such as experiments of liquid and solid phase.

Different head stator configuration specification work, is designed to meet the needs of different experiments. Covering a wider application of surface -- smashing, emulsification, homogenization, such as aggregation, suspended solids, dissolved, and mixing.

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WARRANTY FORM

No.

Dear Customer:

Thank you for choosing AN product. We promise to offer you maintenance service freely if it's due to quality defects. For the sake of your benefit, we need your cooperation by doing as follows:

1. Please keep the Warranty Card properly after purchasing the unit and read the Operation Instruction carefully.
2. Please show the warranty Card and invoice (or by fax) while delivering the unit for maintenance. If you fail to show the warranty card, maintenance of the unit will be charged even if it's during the Warranty period.
3. If the unit required to be delivered for maintenance by post, the postage shall be born by you.

NO free-charge maintenance is provided for the following situations while maintenance service is still warranted:

1. The unit is damaged due to dismantlement, installation or repairing done by the customer himself or herself.
2. The unit is damaged due to improper installation, usage and maintenance by the customer violating requirements in the Operation Instruction.
3. For units expiring the Warranty period, we still provide the customer with quality service, however, a certain amount of service fee will be charged as per relevant regulations.



Registration of information

Device Name: _____ Date of purchase: _____

Device model: _____ The warranty period: _____

Sales unit name	
Unit address	
Telephone number	
Maintenance unit name	
Unit address	
Telephone number	

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